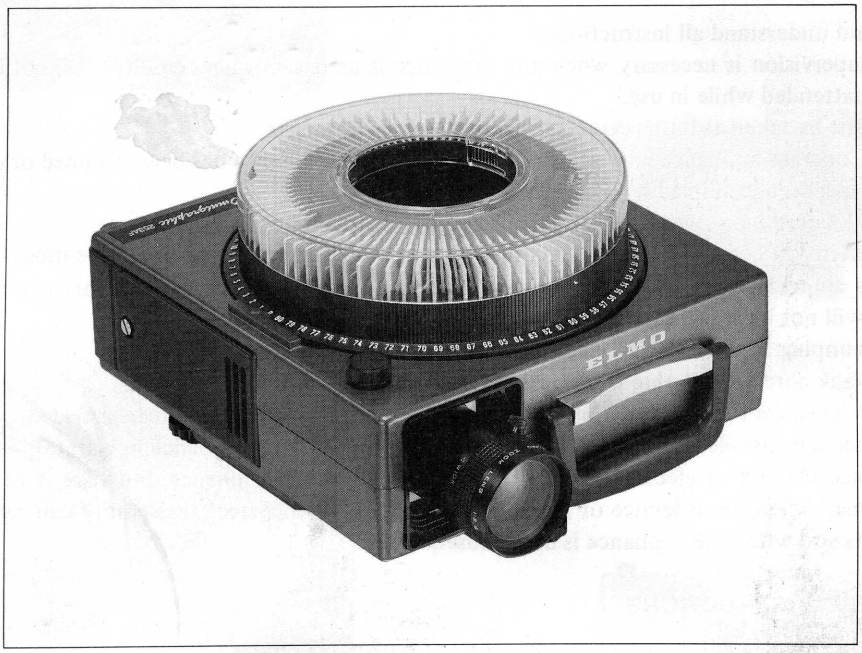
ELMO 35MM SLIDE PROJECTORS

Omnigraphic **253**
Omnigraphic **253AF**
Omnigraphic **253ALC**



INSTRUCTION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
MANUAL DE INSTRUCCIONES
MANUALE DELLE ISTRUZIONI
BRUKSANVISNING
INSTRUCTIES & HANDLEIDING

ELMO

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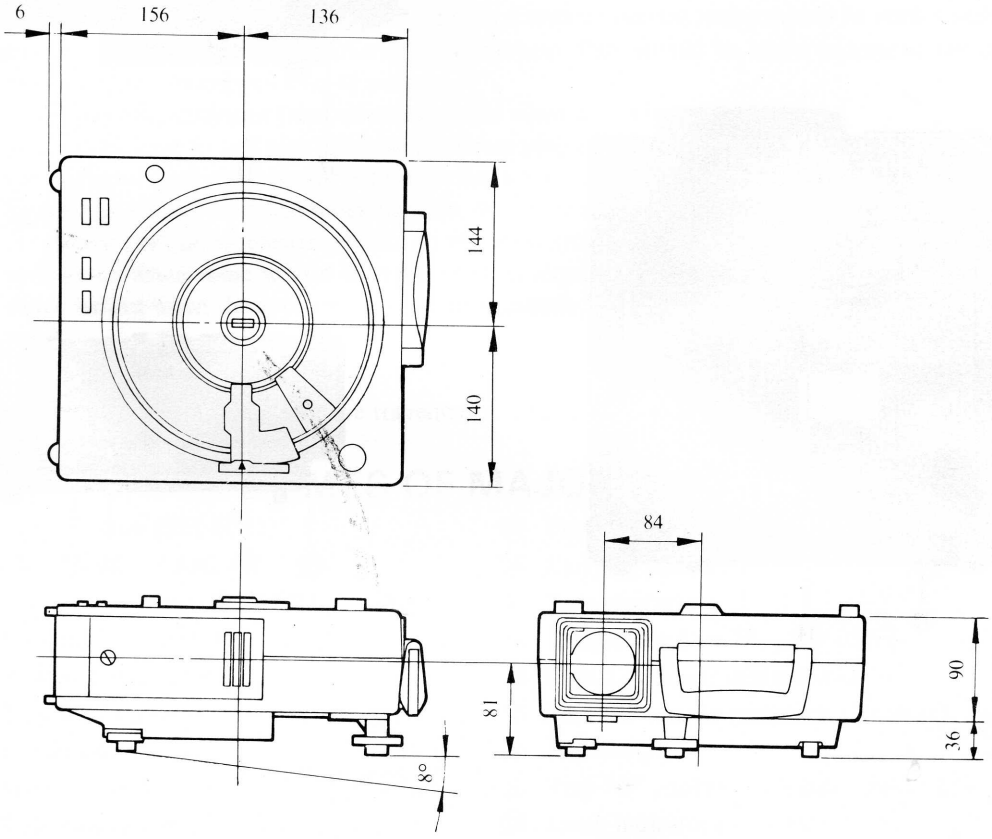
PROFILE



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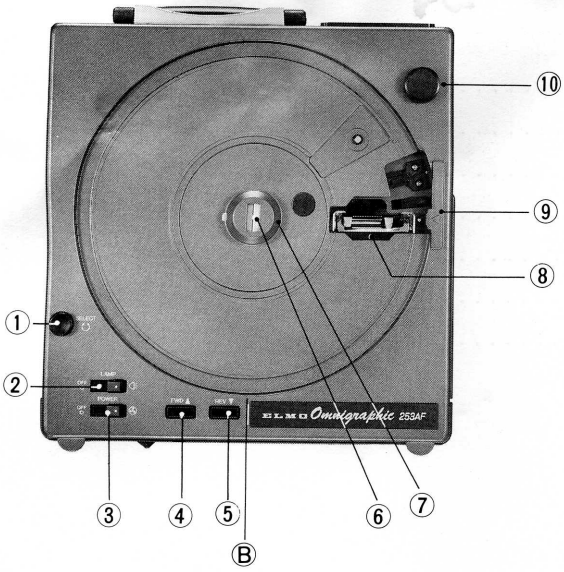
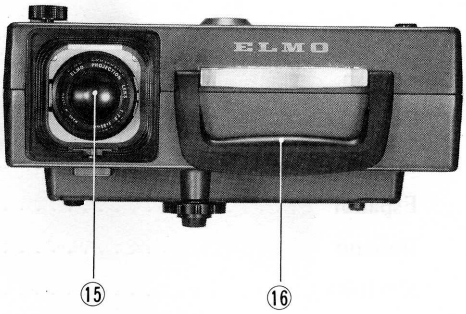
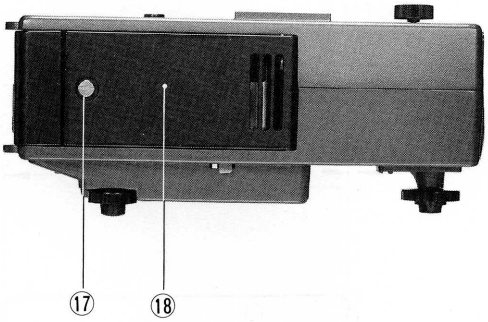
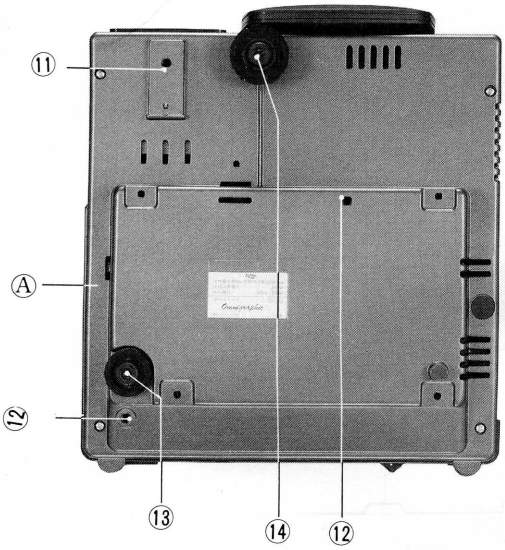
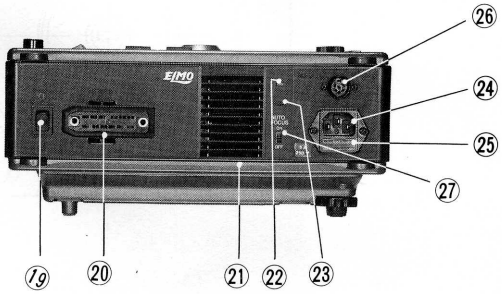










(Omnigraphic 253AF illustrated)

Thank you for your selection of the Elmo OMNIGRAPHIC 253 Series Slide Projector.

The OMNIGRAPHIC 253 Series Slide Projector is an automatic slide projector using circular trays. To meet all projection situations including dissolve control projection, multi-image presentations, a variety of Elmo projection lenses are available, and the OMNIGRAPHIC 253 Series Slide Projector also accepts Kodak accessories for S-AV Carousel slide projectors. The OMNIGRAPHIC 253 Series Slide Projector uses aluminum die-cast for upper and bottom covers, which offers outstanding durability.

To make efficient use of the projector, please read this instruction manual before operation.

IMPORTANT SAFEGUARDS

When using your photographic equipment, basic safety precautions should always be followed, including the following:

1. Read and understand all instructions.
2. Close supervision is necessary when any appliance is used by or near children. Do not leave appliance unattended while in use.
3. Care must be taken as burns can occur from touching hot parts.
4. Do not operate appliance with a damaged cord or if the appliance has been dropped or damaged – until it has been examined by a qualified serviceman.
5. Do not let cord hang over edge of table or counter or touch hot surfaces.
6. If an extension cord is necessary, a cord with a suitable current rating should be used. Cords rated for less amperage than the appliance may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
7. Always unplug appliance from electrical outlet when not in use.
   Never yank cord to pull plug from outlet. Grasp plug and pull to disconnect.
8. Let appliance cool completetly before putting away. Store cord in a manner provided.
9. To protect against electrical shock hazards, do not immerse this appliance in water or other liquids.
10. To reduce the risk of electric shock, do not disassemble this appliance, but take it to a qualified serviceman when some service or repair work is required. Incorrect reassembly can cause electric shock hazard when the appliance is used subsequently.

SAVE THESE INSTRUCTIONS

*Kodak, Ektagraphic and Carousel are trademarks of Eastman Kodak Company.

NAMES OF MAJOR PARTS

① Select button (SELECT)
② Lamp switch (LAMP)
③ Power (fan) switch (POWER)
④ Forward button (FWD)
⑤ Reverse button (REV)
⑥ Tray-removal lever
⑦ Center post
⑧ Gate
⑨ Gate index mark
⑩ Focusing knob
⑪ Socket for mounting lens support bracket
⑫ Threaded hold-down sockets
⑬ Leveling knob
⑭ Elevation knob
⑮ Projection lens
⑯ Carrying handle
⑰ Retaining screw
⑱ Lamphouse door
⑲ High/Low brightness selection switch
⑳ DIN 12P remote receptacle (REMOTE 1)
㉑ Exhaust port
㉒ Tray "0" position indicator (green LED)
㉓ Lamp indicator (red LED)
㉔ Power cord receptacle
㉕ Main fuse
㉖ DIN 6P remote receptacle (REMOTE 2)
㉗ Autofocus switch
Ⓐ Lamp change lever
Ⓑ Rear index mark

CONDENSED OPERATING PROCEDURES

1. Plug the power cord into the power cord receptacle. (PHOTO 1)
2. Install a loaded slide tray on the projector so that the "0" mark is aligned with gate index mark ⑨ . (PHOTO 2)
3. Turn on the power (fan) switch ③ and the lamp switch ② . (PHOTO 3)
4. Press the forward button ④ , and the No. 1 slide in the tray drops into the gate ⑧ for projection. To project the next slide, press the forward button. (PHOTO 4)
5. Turn the projection lens barrel slowly to adjust the focus when spiral-focus lens is installed and turn the focusing knob ⑩ to adjust the focus when rack-focus lens is installed. (PHOTO 5, 6)
6. When the projection is finished, remove the slide tray, turn off the lamp switch ② and the power (fan) switch ③ in order. Unplug the power cord.

NOTE

1. The OMNIGRAPHIC slide projector is equipped with a dark screen shutter to eliminate empty-gate light flashes. Accordingly, when no slide is at the gate, no light is projected.
2. Do not use a torn slide mount or an edge-damaged mount because it may not drop into the gate properly or cause a jam in slide transport. In this case, replace the mount with a new one, or repair and remount it before it is loaded into the tray.

   Specially, when you use a tray with 140 slide capacity, the mounts to be used must be in perfect form because the slide compartments in the tray is quite narrow.

SPECIFICATIONS

	Omnigraphic 253	Omnigraphic 253AF	Omnigraphic 253ALC
Power source	AC Single Phase 50/60 Hz		
Power consumption	330W		
Slide size	2 x 2 mount slide (Max. recommended image size 23 x 35 mm)		
Slide tray	Standard circular trays		
Projection lamp	24V-250W (ANSI Code EHJ)		
Lamp change	Quick lamp change		Automatic lamp change
High/Low brightness control	Built-in		
Lamp indicator	Built-in		
Safety thermal cut-off switch	Built-in		
Projection lens	Elmo rack-focus/spiral-focus lenses .... plus most other rack-focus/spiral-focus lenses compatible with Kodak Ektagraphic and Carousel series projectors.		
Light condensing system	One each ..... Spherical condenser lens, Heat-absorbing condenser lens, Aspherical condenser lens and reflection mirror		
Motors	One each ..... Drive motor, Fan motor and Focus motor.		
Slide transport	Forward and Reverse		
Select button	Built-in		
Slide "0" position indicator	Built-in		
Focusing	Manual plus optional remote control	Auto-focus, manual plus optional remote control	Manual plus optional remote control
Snap function	Built-in		
Remote-accessory receptacles	DIN 12P and DIN 6P receptacles provided		
Elevation	Up to 8°		
Tie-down points	Two threaded sockets for 6.35 mm (1/4 in.) x 20-thread bolt are provided.		
Dimensions (w/o tray & lens)	284 x 292 x 126 mm		
Weight (w/o tray & lens)	Approx. 8.5 kgs.		

(Design and specifications are subject to change without prior notice.)

PROJECTION

1. Installing/Removing Projection Lens

   1) When spiral-focus lens is installed. (See photo 7)
   Insert the projection lens ⑮ directly into the projection lens holder until the lens touches the pin on the holder. Then rotate the projection lens barrel clockwise so that the pin will properly engage with the lens barrel slot.

   To remove the projection lens ⑮ from the projector, rotate the projection lens barrel counterclockwise as far as possible and pull the lens forward.

   2) When rack-focus lens is installed. (See photo 8)
   Insert or remove the projection lens ⑮ into/from the projector. When installing the lens, make sure that the rack of the projection lens barrel is faced to the left so that the rack will properly engage the pinion on the shaft of the focusing knob.

2. Installing Slide Tray (See photo 9)

   Position a loaded slide tray A over the center post ⑦ of the projector, and rotate the tray until it fits snugly at the position where the "0" mark of the tray meets the gate index mark ⑨ .

   If the tray cannot smoothly drop over the center post, check the position of slide tray retainer plate on the bottom of the tray.

   Important: Do not use damaged slides (with torn mounts, exposed sharp-glass corners or edges, or loose or sticky tape). Such slides should be repaired and remounted before they are loaded into the tray.

3. Removing Slide Tray (See photo 10)

   When the projection of all the slides is over, advance the tray so that the "0" mark is at the gate index marck ⑨ ; you can then remove the tray.

   To remove the tray in mid-projection, rotate the tray until the "0" mark is aligned with the gate index mark (while pressing the select button ① , with the power (fan) switch ③ on). Then remove the tray.

   Important: In case a slide mount is caught in the gate and the tray jams, proceed to the following steps. (See photo 11)

   1) While pushing the Tray-removal lever ⑥ , lift off the tray.
   2) Take out the jammed slide.
   3) Make sure the tray's locking ring is tightly closed. Invert the tray and turn the bottom plate until it locks.
   4) Turn the tray upright and take out the locking ring.
   5) If the slide is not damaged, put it back, and attach the locking ring.

4. Slide Transport

   Press the forward ④ or the reverse ⑤ button to change slides. When the forward or the reverse button is kept depressed, the slides will change one after another.

   For quick random selection of any slide, manually rotate the tray to the desired slide while pressing the select button ① .

5. Remote Control

   With the optional remote control, remote operation of forward/reverse tray advance and focusing is possible. Connect the remote control to the DIN 6P remote receptacle (REMOTE 2) ㉖

6. Lamp Hi/Low brightness selection switch ⑲

1) Omnigraphic 253/253AF : With the switch set at low position, a little lower voltage (approx. 22V) is applied to the lamp to prolong the lamp service life. When especially bright image is required, set the switch at high to apply the rated voltage (approx. 24V) to the lamp.

2) Omnigraphic 253 ALC : This switch is only activated when an external dissolve unit is used. In other word, when the lamp switch ② is set at "ON" position, the lamp Hi/Low selection switch ⑲ does not function.

When a dissolve unit is connected via DIN 12P remote receptacle (Remote 1) ⑳ , the lamp voltage is supplied as follows;

Low-setting : The nominal voltage of 24V will be reduced to approx. 22V.
Hi-setting : The nominal voltage of 26V will be reduced to approx. 24V.

* Hi-setting is recommended to get full brightness.
* Low-setting is recommended to make the lamp life longer.

7. Tray "0" Position Indicator ㉒

While the tray is at "0" position with the main switch on, the tray "0" position indicator (green LED) keeps lighting. (When the tray is at any other position, the indicator will not light.)

8. Receptacles

1) DIN 12P remote receptacle (REMOTE 1) ⑳ (See photo 12)
The DIN 12P remote receptacle provides access to the projector's circuitry and allows for a number of additional functions. The functions of each pin-number configuration are as follows:

Contacts required for function	Function
b3 & b4	Forward tray advance
b2 & b4	Reverse tray advance
b5 & b6	"0" mark position switch
a3 & a4	Lamp ON/OFF and dissolve control

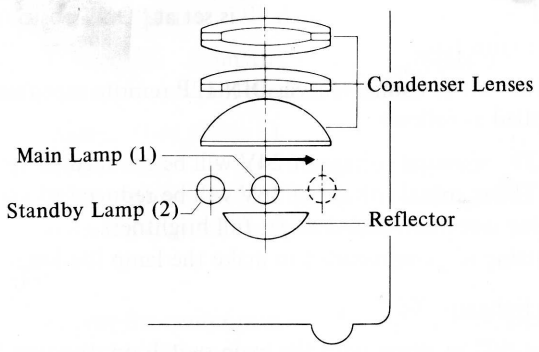
2) DIN 6P remote receptacle (REMOTE 2) ㉖ (See Photo ⑬)
Remote control operation is possible by connecting a remote to the DIN 6P remote control receptacle. Functions of each pin-number configuration are as follows:

Contacts required for function	Function
2 & 3	Forward tray advance
1 & 3	Reverse tray advance
3 ~ 6	Focusing

9. Quick Lamp Changer

1) The Omnigraphic 253ALC is equipped with an automatic quick lamp changer. A main lamp (1) is used for projection, but in case the main lamp accidentally burns out during the projection, it is replaced with a standby lamp (2) automatically and instantly.
Lamp indicator (red LED) lights to show that a standby lamp is located at main lamp position.
It is suggested that a standby lamp is always kept for emergency need.

2) Both Omnigraphic 253/253AF are equipped with a quick lamp changer which makes possible replacement of burns out main lamp (1) with a standby lamp (2) manually in the following way.
By pushing the lamp change lever in the direction of the arrow, set the standby lamp (2) at main lamp position. (See photo 14)



10. Autofocus

The Omnigraphic 253AF is equipped with the autofocus mechanism to assure a sharp projected image.
The autofocus mechanism permits an automatic adjustment of the distance between the projection lens and the film emulsion surface in the center portion of the slide mount to be always constant.

1) Operation of the Autofocus Mechanism

To activate the autofocus mechanism, proceed to the following steps.

a) Set the autofocus switch on the back of the projector to "ON".
b) Press the forward button and drop No. 1 slide into the gate for projection.
c) Adjust the focus manually until the film image on the screen becomes in focus.
d) Once this initial focusing has been done, the autofocus mechanism functions to establish the optimum focus for each image of the subsequent slide mounts in the tray.

Note: When the glass mounted slides are used, the focus may be adjusted with regard to the front surface of the glass mount, not to the film surface.

If the glass mounted slides and paper mounted slides are loaded mixed in the tray, or if the tray is loaded with glass mounted slides having different thickness, set the autofocus switch to "OFF" to bring the autofocus mechanism to be inoperative.

2) Autofocus Operation using Remote Control

The Omnigraphic 253AF incorporates a mechanism to override the autofocus mechanism when focusing is manually done using the Remote Control (optionally available).
Thus, the focusing of No. 1 slide in the tray can also be made manually at a remote location by use of this Remote Control.

11. Snap Facility

The Omnigraphic slide projector is equipped with snap facility which is a device for special visual effects. It can make a slide show more interesting or impressive by a dramatic flash of numbers, words or images with a solenoid shutter control.
It is controlled via DIN 12P remote receptacle (REMOTE 1) by linking contact b1 and b4. (See phote 12)

Note: Pulse duration at least 0.15 second.

MAINTENANCE

1. Replacing Projection Lamp (See photo 14, 15)

   Caution: Before replacing the projection lamp, make sure that the lamp has cooled enough to permit handling.

   Replace a burnt-out lamp in the following way.

   1) Open the lamphouse door ⑱ by turning its retaining screw ⑰ .
   2) By pulling the lamp change lever toward yourself, set the standby lamp at main lamp position.
   3) Hold the upper part of lamp holder by fingers, and pull it toward yourself.
   4) Remove the burnt out lamp and insert a new lamp.
   5) To restore the lamp holder to the original position, push back the lower part of lamp holder as indicated in the Fig. 3 until it stops. (Do not push the upper part of lamp holder not to damage it).

   Note: 1. Be careful not to touch the bulb or mirror inside the lamp's reflector. If you accidentally put finger-prints on the bulb or mirror, wipe them with a soft cloth.
   2. Be sure to use the specified 24V 250W projection lamp only.

2. Adjusting Lampfilament Position (See photo 16)

   1) Placing the pinhole slide supplied with projector in the gate.
   2) Projecting the filament image on a screen.
   3) Adjusting the filament image as of B on photo 16 by adjusting screw ⓐ and mirror holder ⓑ while observing the projected images.

3. Cleaning and Replacing Condenser Optics (See photo 17)

   Caution: Make sure that the glass has cooled before handling.

   Open the lamphouse door ⑱ by turning the retaining screw ⑰ . Then carefully slide the condenser optics out of the condenser holder and wipe the condenser lens with lens cleaning paper or a soft cloth. Slide the optics back inside the slot of the condenser holder, and close the lamphouse door. Tighten the door with the screw ⑰ .

   When using Elmo Projection Lense F2.9, 140 mm, F4.5, 180–300 mm, or F4.5-5.6, 300–450 mm, replace the condenser lens ⓐ (originally provided with the projector) with the condenser lens supplied with the lenses.

   Note: (See photo 17)

   When putting back the condenser lens ⓐ into the slot, place the notched edge ⓑ of the condenser lens downward.

PROJECTION LENSES

1. Projection Lenses

The following interchangeable lenses are available for your selection:

Elmo Projection lens F2.8, 50mm	(2.0")	(L1)
Elmo Projection Lens F2.8, 85mm	(3.3")	(L2)
Elmo Projection Lens F2.9, 140m	(5.5")	(L3)
Elmo Zoom Lens F3.5, 70–120mm	(2.8"-4.7").	(L4)
Elmo Zoom Lens F2.8, 70–125mm	(2.8"-4.9").	(L5)
Elmo Zoom Lens F3.5, 100–150mm	(3.9"-5.9")	
Elmo Zoom Lens F4.5, 180–300mm	(7.1"-11.8").	(L6)
Elmo Zoom Lens F4.5-5.6, 300–450mm	(11.8"-17.7")	(L7)
Elmo PC Lens F2.8, 38mm	(1.5")	(L8)
Elmo PC Lens F2.8, 50mm	(2.0")	(L9)

Note: 1) When using the F4.5, 180–300mm (L6) lens, or the F4.5-5.6, 300–450mm (L7) lens, attach the lens support bracket (supplied with the lens) to the projector, by screwing the bracket into the threaded socket (12) .

2) When using Elmo Projection lenses F2.9, 140mm (L3) , F4.5, 180–300mm (L6) , or F4.5-5.6, 300–450mm (L7) , replace the condenser optics with the ones supplied with the lenses. See page 8, 3 "Cleaning and Replacing Condenser Optics."

2. Conversion Lens

An Elmo Conversion Lens (L10) for the F2.9, 140 mm is also available. By using the conversion lens, the F2.9, 140 mm will be converted to 120 mm or 165 mm.

Note: Detach the front ring of F2.9, 140 mm lens when attaching the conversion lens.

Memo.

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